TEST REPORT

Application No.:	SHEM2504002077HS
Applicant:	BAUF HOME GmbH
Address of Applicant:	Frankfurter Straße 16, 74072 Heilbronn, Germany
Manufacturer:	BAUF HOME GmbH
Address of Manufacturer:	Frankfurter Straße 16, 74072 Heilbronn, Germany
Factory:	Ningbo AUX Electric Co., Ltd.
Address of Factory:	1166 Mingguang North Road, Jiangshan Yinzhou District, Ningbo, 315191 Zhejiang, China
Equipment Under Test (EUT):	
EUT Name:	Air Conditioner
Model No.:	BRAC-FM-IA1-28-R3-O, BRAC-FM-IA1-36-R3-O, BRAC-FM-IA1-42R3-O
Standard(s) :	EN IEC 55014-1:2021
	EN 61000-3-12:2011
	EN IEC 61000-3-11:2019
	EN IEC 55014-2:2021
Date of Receipt:	2021-07-11
Date of Test:	2021-08-18 to 2021-08-23
Date of Issue:	2025-04-08
Test Result:	**Pass***

* In the configuration tested, the EUT complied with the standards specified above.

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Member of the SGS Group (SGS SA)

Revision Record			
Version	**Description**	**Date**	**Remark**
00	Co-license	2025-04-08	Based on SHEM210901076801 (Original report no.: SHEM181000900601)

Authorized for issue by:				
Tested By		Andy Yang **Andy Yang/Project Engineer**		
Approved By		Parlam Zhan **Parlam Zhan / Reviewer**		

2 Test Summary

Emission Part				
Item	**Standard**	**Method**	**Requirement**	**Result**
Conducted Emissions at Mains Terminals (150kHz-30MHz)	EN IEC 55014-1:2021	CISPR 16-2-1	N/A	Pass
Discontinuous Disturbance (150kHz-30MHz)	EN IEC 55014-1:2021	EN IEC 55014-1:2021	N/A	Pass
Disturbance Power	EN IEC 55014-1:2021	CISPR 16-2-2	N/A	Pass
Harmonic Current Emission	EN 61000-3-12:2011	EN 61000-3-12:2011	Annex A.2	Pass
Voltage Fluctuations and Flicker	EN IEC 61000-3-11:2019	EN IEC 61000-3-11:2019	Clause 4 a) of EN IEC 61000-3-11:2019	Pass

N/A: Not applicable

Immunity Part				
Item	**Standard**	**Method**	**Requirement**	**Result**
Electrostatic Discharge	EN IEC 55014-2:2021	EN 61000-4-2:2009	4kV Contact Discharge 8kV Air Discharge	Pass
Electrical Fast Transients/Burst at Power Port	EN IEC 55014-2:2021	EN 61000-4-4:2012	1kV 5/50ns Tr/Td 5kHz Repetition Frequency	Pass
Electrical Fast Transients/Burst at Signal Port	EN IEC 55014-2:2021	EN 61000-4-4:2012	0.5kV 5/50ns Tr/Td 5kHz Repetition Frequency	Pass
Surge at Power Port	EN IEC 55014-2:2021	EN 61000-4-5:2014 +A1:2017	1.2/50μs Tr/Td 1kV Line to Line 2kV Line to Ground	Pass
Conducted Immunity at Power Port (150kHz-230MHz)	EN IEC 55014-2:2021	EN IEC 61000-4-6:2023	3Vrms (emf),80%,1kHz Amp. Mod.	Pass
Conducted Immunity at Signal Port (150kHz-230MHz)	EN IEC 55014-2:2021	EN IEC 61000-4-6:2023	1Vrms (emf),80%,1kHz Amp. Mod.	Pass

Emission Part				
Item	**Standard**	**Method**	**Requirement**	**Result**
Voltage Dips and Interruptions	EN IEC 55014-2:2021	EN 61000-4-11:2004 +A1:2017	For 50Hz: 0 % UT for 0.5per 40 % UT for 10per 70 % UT for 25per For 60Hz: 0 % UT for 0.5per 40 % UT for 12per 70 % UT for 30per UT is Supply Voltage	Pass

N/A: Not applicable

Note1: There are series models mentioned in this report and they are the similar in electrical and electronic characters. Only the model BRAC-FM-IA1-36-R3-O was tested since their differences are appearance and control panel.
Note2: This report was an additional report copied from the report SHEM210901076801, just changing the model name, applicant and manufacturer. Since the electrical circuit design, layout, components used and internal wiring for the model BRAC-FM-IA1-28-R3-O, BRAC-FM-IA1-36-R3-O, BRAC-FM-IA1-42R3-O in this report was exactly the same as the model AM4-H36/4DR3 in the report SHEM210901076801.

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4 General Information

4.1 Details of E.U.T.

Power supply: AC 220-240V 50Hz 23.5A
Test voltage: AC 230V 50Hz
Cable: AC cable 2m, Signal cable 5.5m

4.2 Description of Support Units

Description	Manufacturer	Model No.
Indoor Unit	Ningbo AUX Electric Co., Ltd.	AMCF-H09/4R3F, AMCF-H12/4R3F, AMCF-H18/4R3F, AMCA-H09/4R3AA, AMCA-H09/4R3AB, AMCA-H12/4R3AA, AMCA-H12/4R3AB, AMCA-H18/4R3AA, AMCA-H18/4R3AB, AMCF-H09/4R3A, AMCF-H12/4R3A, AMCF-H18/4R3A, AMSD-H07/4R3A, AMSD-H09/4R3A, AMSD-H12/4R3A, AMSD-H18/4R3A, AMWM-H07/4R3(F#), AMWM-H07/4R3(L*), AMWM-H07/4R3(J&), AMWM-H09/4R3(F#), AMWM-H09/4R3(L*), AMWM-H09/4R3(J&), AMWM-H12/4R3(F#), AMWM-H12/4R3(L*), AMWM-H12/4R3(J&), AMWM-H18/4R3(F#), AMWM-H18/4R3(L*), AMWM-H18/4R3(J&), AMWM-H24/4R3(F#), AMWM-H24/4R3(J&), AMSD-H24/4R3AA, AMSD-H07/4R3AA, AMSD-H09/4R3AA, AMSD-H12/4R3AA, AMSD-H18/4R3AA, AMCA-H24/4R3B, AMCA-H18/4R3YA, AMCA-H18/4R3YB (#=A, B, C, D, I, J, O, Y, Q, M, F, H, E, L, U, T, V, P, X, W, R, S, N, R, Z, VMA; *= blank, K700, F, H, I, M, N, R, U, S, D, P, Q, B, O, C, E, L, V800, T, W, Z; &= A, C, D, E, F). AMWM-H12/4R3(H*), AMWM-H18/4R3(H*), AMWM-H07/4R3(H*), AMWM-H09/4R3(H*), AMWM-H24/4R3(H*) (*=A,B,C,D,E,F,G,H,J,K,L)

4.3 Measurement Uncertainty

No.	Item	Measurement Uncertainty
1	Conducted Emission at mains port using AMN	2.6dB (9kHz to 150kHz)
		2.4dB (150kHz to 30MHz)
2	Conducted Emission at mains port using VP	1.8 dB (9kHz to 30MHz)
3	Conducted Emission at telecommunication port using AAN	4.2 dB (150kHz to 30MHz)
4	Radiated Power	3.2dB
5	Radiated Emission	4.5dB (30MHz-1GHz)
		5.1dB (1GHz-6GHz)
		5.4dB (6GHz-18GHz)
6	Radiated Disturbance (disturbance current in a LLAS)	2.4dB (9kHz to 30MHz)

Note: The measurement uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

4.4 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. E&E Lab

588 West Jindu Road, Xinqiao, Songjiang, 201612 Shanghai, China

Tel: +86 21 6191 5666 Fax: +86 21 6191 5678

No tests were sub-contracted.

Note:

1. SGS is not responsible for wrong test results due to incorrect information (e.g., max. internal working frequency, antenna gain, cable loss, etc) is provided by the applicant. (If applicable).

2. SGS is not responsible for the authenticity, integrity and the validity of the conclusion based on results of the data provided by applicant. (If applicable).

3. Sample source: sent by customer.

4.5 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

• A2LA (Certificate No. 6332.01)

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. is accredited by the American Association for Laboratory Accreditation(A2LA).

• FCC (Designation Number: CN1301)

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been recognized as an accredited testing laboratory.

• ISED (CAB Identifier: CN0020)

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. EMC Laboratory has been recognized by Innovation, Science and Economic Development Canada (ISED) as an accredited testing laboratory. Company Number: 8617A

• VCCI (Member No.: 3061)

The 3m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-13868, C-14336, T-12221, G-10830 respectively.

4.6 Deviation from Standards

None

4.7 Abnormalities from Standard Conditions

None

4.8 Monitoring of EUT for All Immunity Test

Visual: Working status of EUT.

5 Equipment List

Conducted Emissions at Mains Terminals (150kHz-30MHz)					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
EMI test receiver	Rohde & Schwarz	ESR7	SHEM162-1	2020-12-20	2021-12-19
Line impedance stabilization network	SCHWARZBECK	NSLK8127	SHEM061-1	2020-12-20	2021-12-19
Line impedance stabilization network	EMCO	3816/2	SHEM019-1	2020-12-20	2021-12-19
Pulse limiter	Rohde & Schwarz	ESH3-Z2	SHEM029-1	2020-12-20	2021-12-19
Shielding Room	ZHONGYU	8*4*3M	SHEM079-2	2020-12-20	2023-12-19
CE test Cable	/	/	CE01	2020-12-20	2021-12-19

Discontinuous Disturbance (150kHz-30MHz)					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
Click analyzer	SCHAFFNER	DIA1512D	SHEM013-1	2020-12-20	2021-12-19
Test software	SCHAFFNER	DIS9966	Version: 2.5	N/A	N/A
Line impedance stabilization network	SCHWARZBECK	NSLK8127	SHEM061-1	2020-12-20	2021-12-19
Line impedance stabilization network	EMCO	3816/2	SHEM019-1	2020-12-20	2021-12-19
Shielding Room	ZHONGYU	8*4*3M	SHEM079-2	2020-12-20	2023-12-19

Disturbance Power					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
EMI test receiver	Rohde & Schwarz	ESR7	SHEM162-1	2020-12-20	2021-12-19
Absorbing clamp	LUTHI	MDS21	SHEM014-1	2020-12-20	2021-12-19
DE coupling clamp	LUTHI	FTC101	SHEM027-2	N/A	N/A
Shielding Room	ZHONGYU	8*4*3M	SHEM079-2	2020-12-20	2023-12-19
Attenuator	HUAXIANG	TS2-6dB-2G-B	SHEM208-1	2020-12-20	2021-12-19
CE test Cable	/	/	CE01	2020-12-20	2021-12-19

Harmonic & Voltage Fluctuations and Flicker					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
Harmonic&Flicker analyzer	AMETEK	PACS-1	SHEM024-2	2021-05-27	2022-05-26
AC Power Source 5KVA	AMETEK	5001iX	SHEM025-2	2021-05-27	2022-05-26
Test software	AMETEK	CTS4	Version: 4.24.0	N/A	N/A

Electrostatic Discharge					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
Electrostatic Discharge Simulator	TESEQ	NSG 437	SHEM041-2	2021-08-13	2022-08-12

Electrical Fast Transients/Burst at Power Port					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
Immunity Test System	EMC PARTNER	TRA3000 F-S-D-V	SHEM163-1	2020-12-20	2021-12-19
Test software	EMC PARTNER	GENECS	Version: 3.29	N/A	N/A
Immunity Test System	TESEQ	NSG 3060	SHEM224-1	2021-04-15	2022-04-14
Coupling / Decoupling Network (CDN)	TESEQ	CDN 3061	SHEM224-3	2021-04-15	2022-04-14

Electrical Fast Transients/Burst at Signal Port					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
Immunity Test System	EMC PARTNER	TRA3000 F-S-D-V	SHEM163-1	2020-12-20	2021-12-19
Test software	EMC PARTNER	GENECS	Version: 3.29	N/A	N/A
Immunity Test System	TESEQ	NSG 3060	SHEM224-1	2021-04-15	2022-04-14
Capacitive coupling clamp	EM test	HFK	SHEM026-2	2020-12-20	2021-12-19
Data coupling network 4 line	EM test	CNV 504	SHEM026-3	2020-12-20	2021-12-19

Surge at Power Port					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
Immunity Test System	EMC PARTNER	TRA3000 F-S-D-V	SHEM163-1	2020-12-20	2021-12-19
Test software	EMC PARTNER	GENECS	Version: 3.29	N/A	N/A
Immunity Test System	TESEQ	NSG 3060	SHEM224-1	2021-04-15	2022-04-14
Coupling / Decoupling Network (CDN)	TESEQ	CDN 3061	SHEM224-3	2021-04-15	2022-04-14

Voltage Dips and Interruptions					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
Immunity Test System	EMC PARTNER	TRA3000 F-S-D-V	SHEM163-1	2020-12-20	2021-12-19
Test software	EMC PARTNER	GENECS	Version: 3.29	N/A	N/A
Immunity Test System	TESEQ	NSG 3060	SHEM224-1	2021-04-15	2022-04-14
Coupling / Decoupling Network (CDN)	TESEQ	CDN 3061	SHEM224-3	2021-04-15	2022-04-14
Manual step transformer	TESEQ	INA 6501	SHEM224-4	2021-04-15	2022-04-14

Conducted Immunity at Power Port (150kHz-230MHz)					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
Signal generator	Rohde & Schwarz	SMJ100A	SHEM141-1	2021-08-13	2022-08-12
Power Amplifier	HAEFFLY	PAMP250	SHEM023-1	2020-12-20	2021-12-19
6dB Attenuator	HUAXIANG	DTS50-6dB-1G-A	SHEM123-2	2020-12-20	2021-12-19
Coupling and Decoupling Network (CDN)	LUTHI	L-801 M1	SHEM023-5	2020-12-20	2021-12-19
Coupling and Decoupling Network (CDN)	LUTHI	L-801 M2/M3	SHEM023-6	2020-12-20	2021-12-19
RF Generator	SCHAFFNER	NSG 2070	SHEM221-1	2021-05-27	2022-05-26
Shielding Room	ZHONGYU	5*5*3M	SHEM079-6	2019-12-20	2022-12-19
Coupling and Decoupling Network	Teseq	CDN M016	SHEM168-1	2020-08-13	2021-08-12

Conducted Immunity at Signal Port (150kHz-230MHz)					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
Signal generator	Rohde & Schwarz	SMJ100A	SHEM141-1	2021-08-13	2022-08-12
Power Amplifier	HAEFFLY	PAMP250	SHEM023-1	2020-12-20	2021-12-19
Coupling clamp	LUTHI	EM 101	SHEM027-1	2020-12-20	2021-12-19
Shielding Room	ZHONGYU	5*5*3M	SHEM079-6	2019-12-20	2022-12-19

General used equipment					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
Digital pressure meter	YONGZHI	DYM3-01	SHEM082-1	2021-01-22	2024-01-21
Temperature&humidity recorder	ShangHai weather meter work	ZJ 1-2B	SHEM042-1~6	2020-09-11	2021-09-10
Digital Multimeter	FLUKE	17B	SHEM043-3	2020-09-09	2021-09-08
Autoformer regulator	Guangzhou bao de	TDGC2-5KVA	SHEM150-1	N/A	N/A
Multi-purpose tong tester	FLUKE	316	SHEM001-1	2020-12-20	2021-12-19

6 Emission Test Results

6.1 Conducted Emissions at Mains Terminals (150kHz-30MHz)

Test Requirement: EN IEC 55014-1:2021

Test Method: CISPR 16-2-1

Frequency Range: 150kHz to 30MHz

Limit:

0.15M-0.5MHz	66dB(μV)-56dB(μV) quasi-peak, 59dB(μV)-46dB(μV) average
0.5M-5MHz	56dB(μV) quasi-peak, 46dB(μV) average
5M-30MHz	60dB(μV) quasi-peak, 50dB(μV) average

Detector: Peak for pre-scan (9kHz resolution bandwidth) 0.15M to 30MHz

6.1.1 E.U.T. Operation

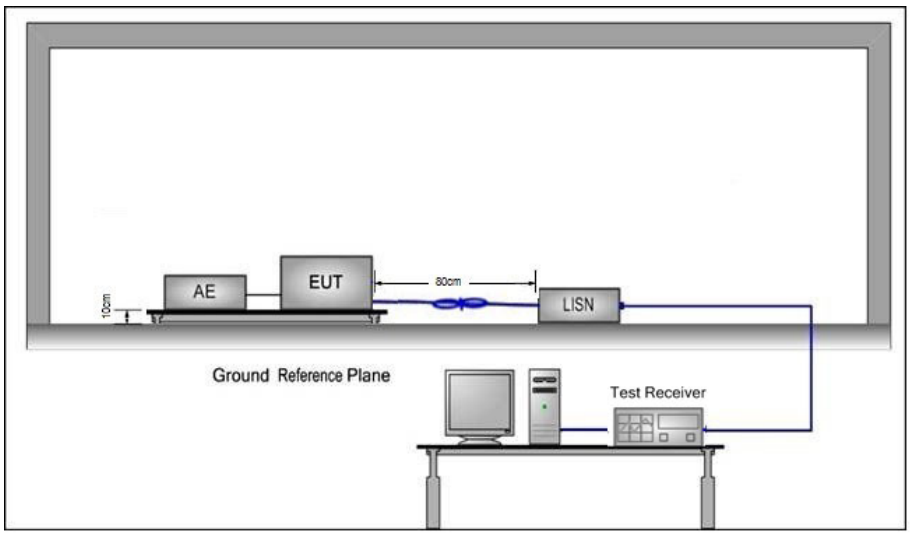
Operating Environment:

Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1002 mbar

Test mode a:Cooling mode: Keep the temperature controller setting at the lowest position, The ambient temperature for EUT shall be (30 ± 5) °C.

b:Heating mode: Keep the temperature controller setting at the highest position, The ambient temperature for EUT shall be (15 ± 5) °C.

6.1.2 Test Setup Diagram

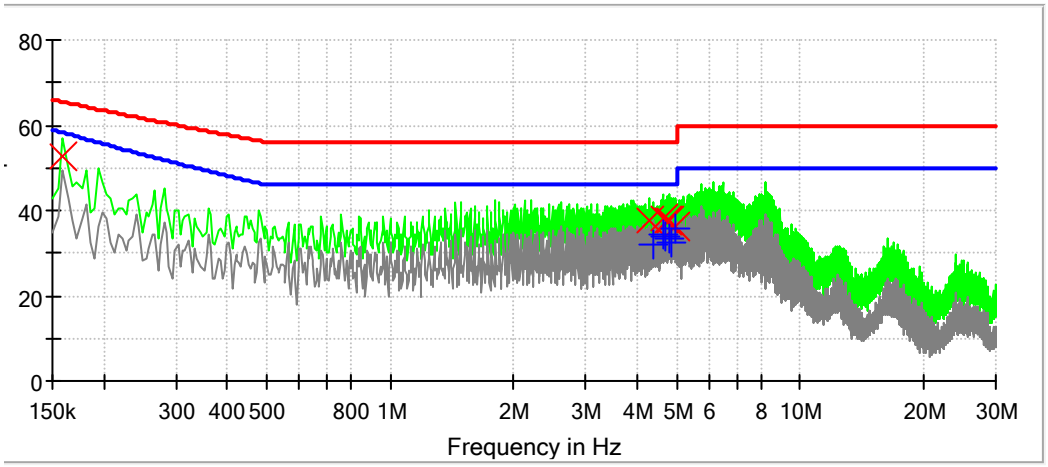


6.1.3 Measurement Data

An initial pre-scan was performed with peak detector.Quasi-Peak or Average measurement were performed at the frequencies with maximized peak emission were detected.

Notes: Emission Level=Read Level + LISN Factor + Cable Loss

Mode:a; Line:Live Line + Neutral Line



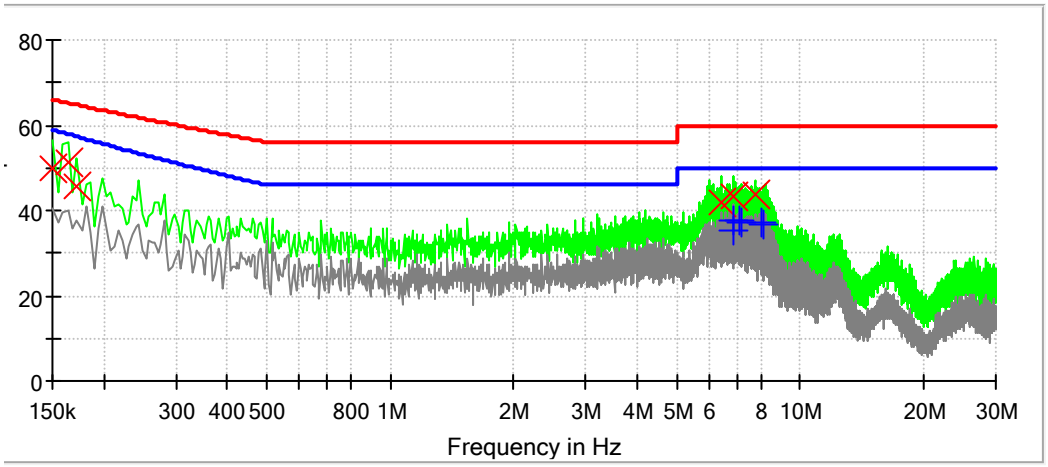
Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.159000	52.5	1000.0	9.000	GN	L1	10.1	12.9	65.5	
4.294500	37.5	1000.0	9.000	GN	L1	10.2	18.5	56.0	
4.614000	38.3	1000.0	9.000	GN	L1	10.2	17.7	56.0	
4.735500	37.6	1000.0	9.000	GN	L1	10.2	18.4	56.0	
4.776000	37.8	1000.0	9.000	GN	L1	10.2	18.2	56.0	
4.938000	36.2	1000.0	9.000	GN	L1	10.2	19.8	56.0	

Final Result 2

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
4.375500	31.9	1000.0	9.000	GN	L1	10.2	14.1	46.0	
4.614000	34.4	1000.0	9.000	GN	L1	10.2	11.6	46.0	
4.695000	33.9	1000.0	9.000	GN	L1	10.2	12.1	46.0	
4.776000	33.2	1000.0	9.000	GN	L1	10.2	12.8	46.0	
4.857000	32.6	1000.0	9.000	GN	L1	10.2	13.4	46.0	
4.933500	35.6	1000.0	9.000	GN	L1	10.2	10.4	46.0	

Mode:b; Line:Live Line + Neutral Line



Final Result 1

Frequency (MHz)	QuasiPeak (dBµV	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.150000	50.1	1000.0	9.000	GN	N	10.0	15.9	66.0	
0.163500	51.3	1000.0	9.000	GN	N	10.0	13.9	65.2	
0.172500	45.5	1000.0	9.000	GN	N	10.0	19.2	64.8	
6.454500	41.8	1000.0	9.000	GN	N	10.2	18.2	60.0	
6.855000	43.3	1000.0	9.000	GN	N	10.2	16.7	60.0	
7.737000	43.6	1000.0	9.000	GN	N	10.3	16.4	60.0	

Final Result 2

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
6.855000	37.6	1000.0	9.000	GN	N	10.2	12.4	50.0	
6.891000	35.3	1000.0	9.000	GN	N	10.2	14.7	50.0	
7.098000	37.8	1000.0	9.000	GN	N	10.2	12.2	50.0	
7.215000	37.2	1000.0	9.000	GN	N	10.2	12.8	50.0	
8.061000	37.2	1000.0	9.000	GN	N	10.3	12.8	50.0	
8.097000	36.8	1000.0	9.000	GN	N	10.3	13.2	50.0	

6.2 Discontinuous Disturbance (150kHz-30MHz)

Test Requirement: EN IEC 55014-1:2021

Test Method: EN IEC 55014-1:2021

Frequency Range: 150kHz to 30MHz

Limit:

0.15MHz	Limit=66dB(μV)+Lq	Lq= 44 dB	N < 0.2
	Lq= 20 lg(30/N) dB	0.2≤N<30	
0.5MHz	Limit=56dB(μV)+Lq	Lq= 44 dB	N < 0.2
	Lq= 20 lg(30/N) dB	0.2≤N<30	
1.4MHz	Limit=56dB(μV)+Lq	Lq= 44 dB	N < 0.2
	Lq=20 lg(30/N) dB	0.2≤N<30	
30MHz	Limit=60dB(μV)+Lq	Lq= 44 dB	N < 0.2
	Lq= 20 lg(30/N) dB	0.2≤N<30	

Lq is click limit, N is click rates

Detector: Peak for pre-scan (9kHz resolution bandwidth) 0.15M to 30MHz

6.2.1 E.U.T. Operation

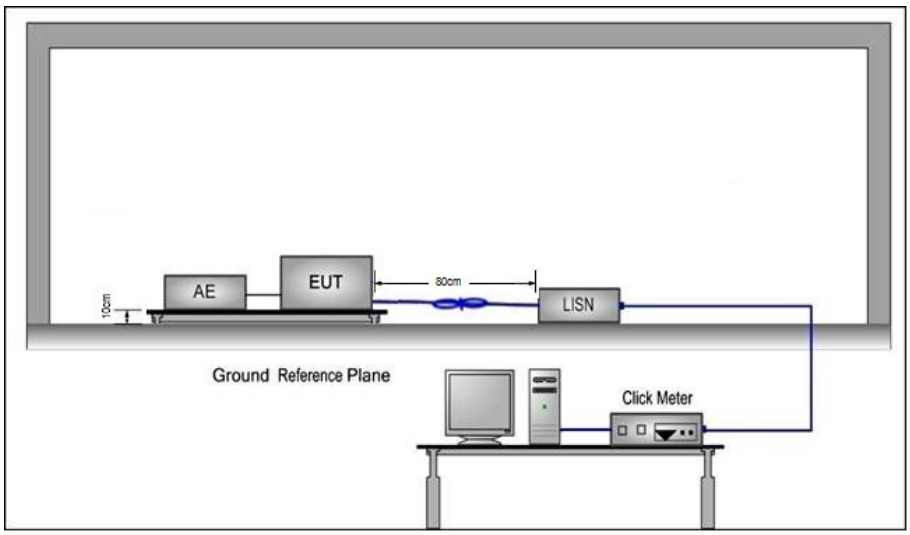
Operating Environment:

Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1002 mbar

Test mode a:Cooling mode: Keep the temperature controller setting at the lowest position, The ambient temperature for EUT shall be (30 ± 5) °C.

b:Heating mode: Keep the temperature controller setting at the highest position, The ambient temperature for EUT shall be (15 ± 5) °C.

6.2.2 Test Setup Diagram



6.2.3 Measurement Data

Mode a

Run A Observation time T1= 120mins				
Switching Operation: -		Factor: -		
Frequency (MHz)	**150kHz**	**500kHz**	**1.4MHz**	**30MHz**
Limit value (L) (dBμV)	66	56	56	60
Short clicks	2	3	1	1
long clicks	0	0	0	0
Total (short + long) n	2	3	1	1
Click Rate:	0.02	0.03	0.01	0.01
☒EUT has a click rate N of not more than five and which has instantaneous switching (the duration of each click is less than 10ms) shall be deemed to comply the limits, independent of the amplitude of the clicks.				

Mode b

Run A Observation time T1= 120mins				
Switching Operation: -		Factor: -		
Frequency (MHz)	**150kHz**	**500kHz**	**1.4MHz**	**30MHz**
Limit value (L) (dBμV)	66	56	56	60
Short clicks	3	2	0	1
long clicks	0	0	0	0
Total (short + long) n	3	2	0	1
Click Rate:	0.03	0.02	0.00	0.01
☒EUT has a click rate N of not more than five and which has instantaneous switching (the duration of each click is less than 10ms) shall be deemed to comply the limits, independent of the amplitude of the clicks.				

6.3 Disturbance Power

Test Requirement: EN IEC 55014-1:2021

Test Method: CISPR 16-2-2

Frequency Range: 30MHz to 300MHz

Limit:

30MHz- 300MHz: 45dB(pW)-55dB(pW) quasi-peak, 35dB(pW)-45dB(pW) average

With an additional margin as below:

200MHz - 300MHz: 0dB(pW)-10dB(pW) quasi-peak, 0dB(pW) average

Note: Increasing linearly with the frequency.

Detector: Peak for pre-scan (120kHz resolution bandwidth) 30M to 300MHz

6.3.1 E.U.T. Operation

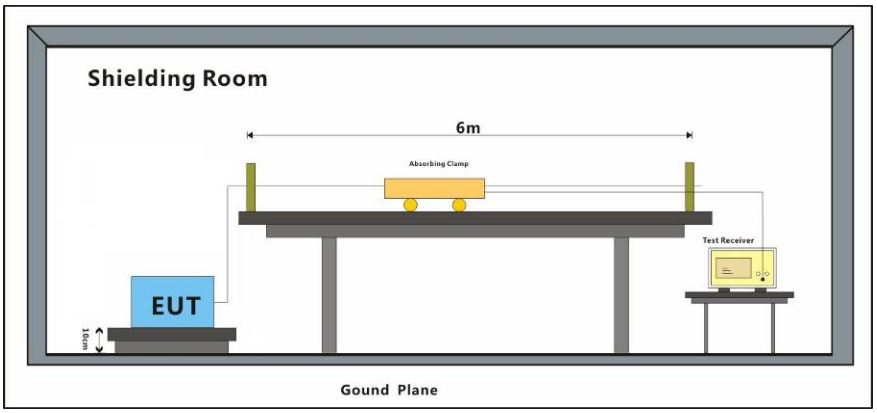
Operating Environment:

Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1002 mbar

Test mode: a:Cooling mode: Keep the temperature controller setting at the lowest position, The ambient temperature for EUT shall be (30 ± 5) °C.

b:Heating mode: Keep the temperature controller setting at the highest position, The ambient temperature for EUT shall be (15 ± 5) °C.

6.3.2 Test Setup Diagram

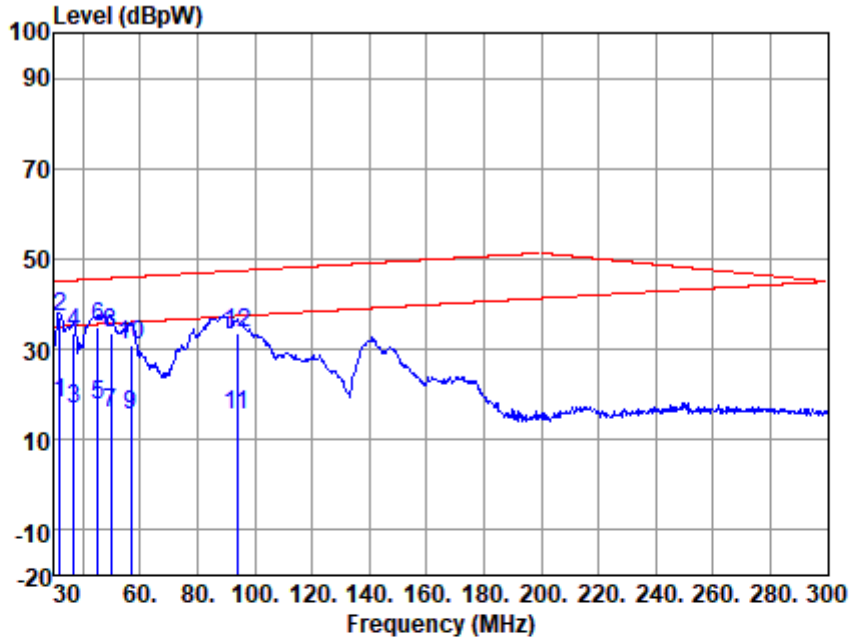


6.3.3 Measurement Data

An initial pre-scan was performed with peak detector.Quasi-Peak or Average measurement were performed at the frequencies with maximized peak emission were detected.

Notes: Emission Level=Read Level + Aux Factor + Cable Loss

Mode:a

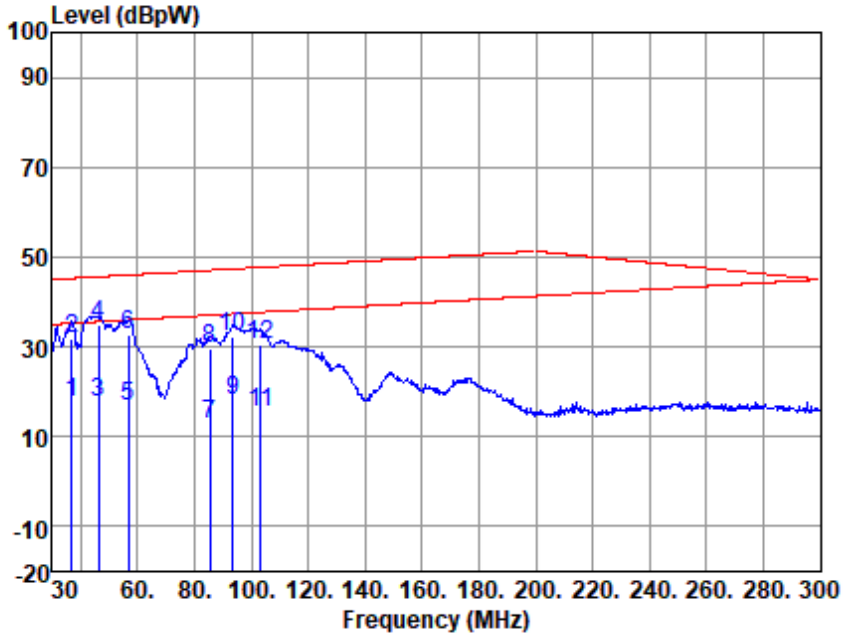


EUT/Project No : 7120HS
Test Mode : a

	Freq (MHz)	Read level (dBpW)	Aux Factor (dB)	Cable Loss (dB)	Emission Level (dBpW)	Limit (dBpW)	Over Limit (dB)	Remark
1	32.16	-8.80	20.31	6.64	18.15	35.09	-16.94	Average
2	32.16	10.07	20.31	6.64	37.02	45.09	-8.07	QP
3	36.75	-9.94	19.97	6.73	16.76	35.26	-18.50	Average
4	36.75	6.74	19.97	6.73	33.44	45.26	-11.82	QP
5	45.12	-6.47	17.10	6.80	17.43	35.57	-18.14	Average
6	45.12	10.88	17.10	6.80	34.78	45.57	-10.79	QP
7	49.71	-7.09	16.25	6.89	16.05	35.74	-19.69	Average
8	49.71	10.37	16.25	6.89	33.51	45.74	-12.23	QP
9	56.73	-9.04	17.30	6.97	15.23	36.00	-20.77	Average
10	56.73	6.49	17.30	6.97	30.76	46.00	-15.24	QP
11	93.99	-9.99	18.04	7.34	15.39	37.38	-21.99	Average
12	93.99	8.14	18.04	7.34	33.52	47.38	-13.86	QP

Notes: Emission Level = Read Level +Aux Factor + Cable loss

Mode:b



EUT/Project No : 7120HS
Test Mode : b

	Freq (MHz)	Read level (dBpW)	Aux Factor (dB)	Cable Loss (dB)	Emission Level (dBpW)	Limit (dBpW)	Over Limit (dB)	Remark
1	36.75	-9.14	19.97	6.73	17.56	35.26	-17.70	Average
2	36.75	5.31	19.97	6.73	32.01	45.26	-13.25	QP
3	46.20	-6.13	16.90	6.82	17.59	35.61	-18.02	Average
4	46.20	11.15	16.90	6.82	34.87	45.61	-10.74	QP
5	56.73	-7.30	17.30	6.97	16.97	36.00	-19.03	Average
6	56.73	8.28	17.30	6.97	32.55	46.00	-13.45	QP
7	85.35	-12.22	17.86	7.25	12.89	37.06	-24.17	Average
8	85.35	4.67	17.86	7.25	29.78	47.06	-17.28	QP
9	93.45	-7.22	18.04	7.34	18.16	37.36	-19.20	Average
10	93.45	7.04	18.04	7.34	32.42	47.36	-14.94	QP
11	103.44	-10.01	18.03	7.43	15.45	37.73	-22.28	Average
12	103.44	5.13	18.03	7.43	30.59	47.73	-17.14	QP

Notes: Emission Level = Read Level +Aux Factor + Cable loss

6.4 Harmonic Current Emission

Test Requirement: EN 61000-3-12:2011

Test Method: EN 61000-3-12:2011

Frequency Range: 100Hz to 2kHz

6.4.1 E.U.T. Operation

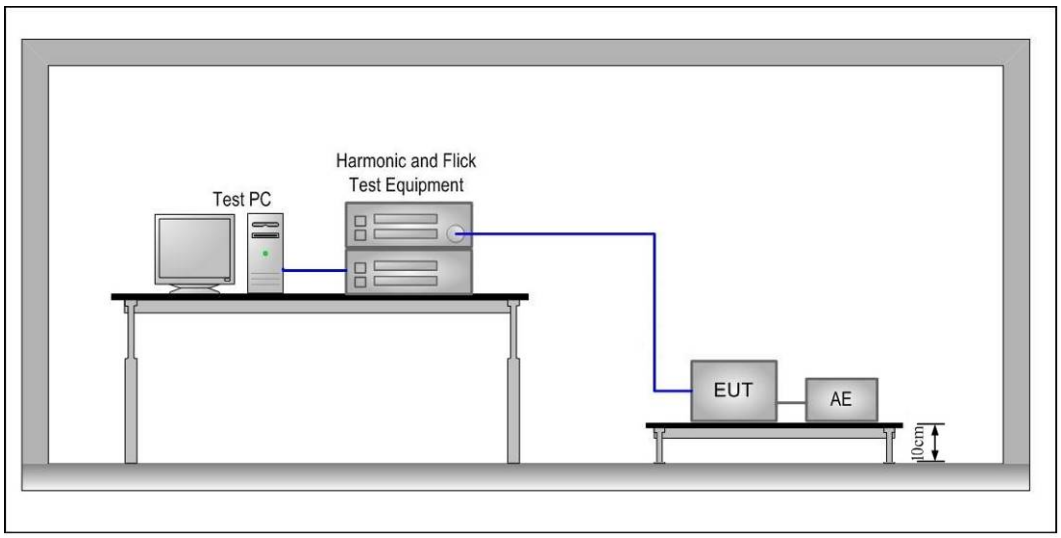
Operating Environment:

Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1010 mbar

Test mode: a:Cooling mode: Keep the temperature controller setting at the lowest position, The ambient temperature for EUT shall be (30 ± 5) °C.

b:Heating mode: Keep the temperature controller setting at the highest position, The ambient temperature for EUT shall be (15 ± 5) °C.

6.4.2 Test Setup



6.4.3 Measurement Data

Mode a
Rsce:33

Average harmonic current results

Hn	Ieff [A]	Ieff [%]	Limit [%]	Result
1	10.983	100.000		
2	22.019E-3	0.200	8.00	PASS
3	490.701E-3	4.468	21.60	PASS
4	22.420E-3	0.204	4.00	PASS
5	239.249E-3	2.178	10.70	PASS
6	13.529E-3	0.123	2.67	PASS
7	113.616E-3	1.034	7.20	PASS
8	12.766E-3	0.116	2.00	PASS
9	162.937E-3	1.484	3.80	PASS
10	7.831E-3	0.071	1.60	PASS
11	67.406E-3	0.614	3.10	PASS
12	7.288E-3	0.066	1.33	PASS
13	74.954E-3	0.682	2.00	PASS
14	7.618E-3	0.069		PASS
15	34.073E-3	0.310		PASS
16	8.792E-3	0.080		PASS
17	40.342E-3	0.367		PASS
18	8.860E-3	0.081		PASS
19	45.374E-3	0.413		PASS
20	8.704E-3	0.079		PASS
21	36.743E-3	0.335		PASS
22	6.701E-3	0.061		PASS
23	38.445E-3	0.350		PASS
24	6.365E-3	0.058		PASS
25	19.089E-3	0.174		PASS
26	6.009E-3	0.055		PASS
27	21.734E-3	0.198		PASS
28	5.731E-3	0.052		PASS
29	18.640E-3	0.170		PASS
30	7.180E-3	0.065		PASS
31	19.390E-3	0.177		PASS
32	6.380E-3	0.058		PASS
33	16.573E-3	0.151		PASS
34	6.827E-3	0.062		PASS
35	7.629E-3	0.069		PASS
36	6.020E-3	0.055		PASS
37	12.853E-3	0.117		PASS
38	5.541E-3	0.050		PASS
39	8.697E-3	0.079		PASS
40	5.373E-3	0.049		PASS

Harmonic current results - DS: 9

Hn	Ieff [A]	Ieff [%]	Limit [%]	Result
1	11.245	102.380		
2	21.050E-3	0.192	8.00	PASS
3	521.483E-3	4.748	21.60	PASS
4	24.111E-3	0.220	4.00	PASS
5	261.390E-3	2.380	10.70	PASS
6	12.352E-3	0.112	2.67	PASS
7	120.299E-3	1.095	7.20	PASS
8	11.066E-3	0.101	2.00	PASS
9	165.608E-3	1.508	3.80	PASS
10	6.098E-3	0.056	1.60	PASS
11	71.989E-3	0.655	3.10	PASS
12	6.933E-3	0.063	1.33	PASS
13	78.878E-3	0.718	2.00	PASS
14	8.539E-3	0.078		PASS
15	38.489E-3	0.350		PASS
16	10.073E-3	0.092		PASS
17	43.666E-3	0.398		PASS
18	8.199E-3	0.075		PASS
19	46.832E-3	0.426		PASS
20	7.799E-3	0.071		PASS
21	41.662E-3	0.379		PASS
22	6.104E-3	0.056		PASS
23	40.864E-3	0.372		PASS
24	5.773E-3	0.053		PASS
25	18.719E-3	0.170		PASS
26	6.925E-3	0.063		PASS
27	23.921E-3	0.218		PASS
28	6.219E-3	0.057		PASS
29	19.076E-3	0.174		PASS
30	7.649E-3	0.070		PASS
31	21.761E-3	0.198		PASS
32	5.844E-3	0.053		PASS
33	18.005E-3	0.164		PASS
34	7.325E-3	0.067		PASS
35	8.512E-3	0.077		PASS
36	5.180E-3	0.047		PASS
37	13.631E-3	0.124		PASS
38	5.338E-3	0.049		PASS
39	11.134E-3	0.101		PASS
40	4.631E-3	0.042		PASS

Caution: Results related to the 100% limit values

Harmonic voltage results - DS: 9

Hn	Ueff [V]	Ueff [%]	Limit [%]	Result
1	230.69	100.299		
2	183.30E-3	0.080	0.4	PASS
3	54.13E-3	0.024	1.3	PASS
4	68.34E-3	0.030	0.4	PASS
5	77.63E-3	0.034	1.5	PASS
6	43.18E-3	0.019	0.4	PASS
7	30.93E-3	0.013	1.3	PASS
8	32.45E-3	0.014	0.4	PASS
9	64.70E-3	0.028	0.6	PASS
10	24.16E-3	0.011	0.4	PASS
11	32.95E-3	0.014	0.7	PASS
12	23.77E-3	0.010	0.3	PASS
13	23.21E-3	0.010	0.6	PASS
14	16.59E-3	0.007	0.3	PASS
15	22.90E-3	0.010	0.3	PASS
16	19.47E-3	0.008	0.3	PASS
17	23.77E-3	0.010	0.3	PASS
18	10.24E-3	0.004	0.3	PASS
19	10.58E-3	0.005	0.3	PASS
20	15.50E-3	0.007	0.3	PASS
21	11.08E-3	0.005	0.3	PASS
22	13.74E-3	0.006	0.3	PASS
23	25.28E-3	0.011	0.3	PASS
24	12.92E-3	0.006	0.3	PASS
25	18.04E-3	0.008	0.3	PASS
26	8.34E-3	0.004	0.3	PASS
27	12.75E-3	0.006	0.3	PASS
28	6.09E-3	0.003	0.3	PASS
29	14.65E-3	0.006	0.3	PASS
30	7.71E-3	0.003	0.3	PASS
31	15.27E-3	0.007	0.3	PASS
32	8.86E-3	0.004	0.3	PASS
33	3.00E-3	0.001	0.3	PASS
34	4.78E-3	0.002	0.3	PASS
35	9.91E-3	0.004	0.3	PASS
36	5.00E-3	0.002	0.3	PASS
37	5.64E-3	0.002	0.3	PASS
38	7.19E-3	0.003	0.3	PASS
39	6.39E-3	0.003	0.3	PASS
40	11.44E-3	0.005	0.3	PASS

Power and THD results - DS: 9

True power P:	2.58kW	Apparent power S:	2.603kVA
Reactiv power Q:	340var	Power factor:	0.991
THD (U):	0.001	THD (I):	0.056
Crest Factor (U):	1.414	Crest Factor (I):	1.496

Mode b
Rsce:33

Average harmonic current results

Hn	Ieff [A]	Ieff [%]	Limit [%]	Result
1	14.774	100.000		
2	22.531E-3	0.153	8.00	PASS
3	711.323E-3	4.815	21.60	PASS
4	24.725E-3	0.167	4.00	PASS
5	275.535E-3	1.865	10.70	PASS
6	13.566E-3	0.092	2.67	PASS
7	163.548E-3	1.107	7.20	PASS
8	11.847E-3	0.080	2.00	PASS
9	185.657E-3	1.257	3.80	PASS
10	7.541E-3	0.051	1.60	PASS
11	90.954E-3	0.616	3.10	PASS
12	6.707E-3	0.045	1.33	PASS
13	94.542E-3	0.640	2.00	PASS
14	8.795E-3	0.060		PASS
15	44.330E-3	0.300		PASS
16	9.208E-3	0.062		PASS
17	60.462E-3	0.409		PASS
18	8.915E-3	0.060		PASS
19	60.712E-3	0.411		PASS
20	8.631E-3	0.058		PASS
21	52.627E-3	0.356		PASS
22	6.142E-3	0.042		PASS
23	49.373E-3	0.334		PASS
24	5.656E-3	0.038		PASS
25	9.863E-3	0.067		PASS
26	6.527E-3	0.044		PASS
27	32.585E-3	0.221		PASS
28	6.255E-3	0.042		PASS
29	30.388E-3	0.206		PASS
30	8.193E-3	0.055		PASS
31	29.389E-3	0.199		PASS
32	6.846E-3	0.046		PASS
33	30.520E-3	0.207		PASS
34	6.073E-3	0.041		PASS
35	11.647E-3	0.079		PASS
36	5.624E-3	0.038		PASS
37	19.839E-3	0.134		PASS
38	4.678E-3	0.032		PASS
39	16.394E-3	0.111		PASS
40	5.591E-3	0.038		PASS

Harmonic current results - DS: 9

Hn	Ieff [A]	Ieff [%]	Limit [%]	Result
1	14.154	95.802		
2	20.373E-3	0.138	8.00	PASS
3	710.946E-3	4.812	21.60	PASS
4	26.275E-3	0.178	4.00	PASS
5	303.194E-3	2.052	10.70	PASS
6	15.173E-3	0.103	2.67	PASS
7	154.410E-3	1.045	7.20	PASS
8	11.565E-3	0.078	2.00	PASS
9	170.137E-3	1.152	3.80	PASS
10	6.638E-3	0.045	1.60	PASS
11	88.871E-3	0.602	3.10	PASS
12	6.246E-3	0.042	1.33	PASS
13	92.450E-3	0.626	2.00	PASS
14	9.520E-3	0.064		PASS
15	48.588E-3	0.329		PASS
16	8.456E-3	0.057		PASS
17	63.491E-3	0.430		PASS
18	7.924E-3	0.054		PASS
19	62.532E-3	0.423		PASS
20	9.236E-3	0.063		PASS
21	53.550E-3	0.362		PASS
22	6.920E-3	0.047		PASS
23	47.830E-3	0.324		PASS
24	5.248E-3	0.036		PASS
25	10.030E-3	0.068		PASS
26	7.044E-3	0.048		PASS
27	33.311E-3	0.225		PASS
28	6.821E-3	0.046		PASS
29	30.923E-3	0.209		PASS
30	6.866E-3	0.046		PASS
31	29.579E-3	0.200		PASS
32	5.610E-3	0.038		PASS
33	30.438E-3	0.206		PASS
34	5.835E-3	0.039		PASS
35	12.939E-3	0.088		PASS
36	5.011E-3	0.034		PASS
37	19.044E-3	0.129		PASS
38	4.634E-3	0.031		PASS
39	18.133E-3	0.123		PASS
40	6.164E-3	0.042		PASS

Caution: Results related to the 100% limit values

Harmonic voltage results - DS: 9

Hn	Ueff [V]	Ueff [%]	Limit [%]	Result
1	230.43	100.188		
2	182.18E-3	0.079	0.4	PASS
3	61.43E-3	0.027	1.3	PASS
4	70.39E-3	0.031	0.4	PASS
5	83.76E-3	0.036	1.5	PASS
6	41.74E-3	0.018	0.4	PASS
7	36.44E-3	0.016	1.3	PASS
8	31.34E-3	0.014	0.4	PASS
9	45.32E-3	0.020	0.6	PASS
10	26.27E-3	0.011	0.4	PASS
11	18.52E-3	0.008	0.7	PASS
12	24.33E-3	0.011	0.3	PASS
13	41.29E-3	0.018	0.6	PASS
14	15.49E-3	0.007	0.3	PASS
15	28.35E-3	0.012	0.3	PASS
16	15.59E-3	0.007	0.3	PASS
17	13.72E-3	0.006	0.3	PASS
18	8.96E-3	0.004	0.3	PASS
19	34.04E-3	0.015	0.3	PASS
20	14.20E-3	0.006	0.3	PASS
21	31.45E-3	0.014	0.3	PASS
22	9.34E-3	0.004	0.3	PASS
23	8.05E-3	0.003	0.3	PASS
24	15.64E-3	0.007	0.3	PASS
25	15.71E-3	0.007	0.3	PASS
26	12.99E-3	0.006	0.3	PASS
27	24.75E-3	0.011	0.3	PASS
28	6.73E-3	0.003	0.3	PASS
29	11.92E-3	0.005	0.3	PASS
30	5.86E-3	0.003	0.3	PASS
31	6.96E-3	0.003	0.3	PASS
32	12.84E-3	0.006	0.3	PASS
33	20.61E-3	0.009	0.3	PASS
34	5.14E-3	0.002	0.3	PASS
35	6.27E-3	0.003	0.3	PASS
36	3.13E-3	0.001	0.3	PASS
37	3.13E-3	0.001	0.3	PASS
38	8.52E-3	0.004	0.3	PASS
39	7.48E-3	0.003	0.3	PASS
40	11.74E-3	0.005	0.3	PASS

Power and THD results - DS: 9

True power P:	3.24kW	Apparent power S:	3.261kVA
Reactiv power Q:	369.8var	Power factor:	0.994
THD (U):	0.001	THD (I):	0.056
Crest Factor (U):	1.413	Crest Factor (I):	1.521

6.5 Voltage Fluctuations and Flicker

Test Requirement: EN IEC 61000-3-11:2019

Test Method: EN IEC 61000-3-11:2019

6.5.1 E.U.T. Operation

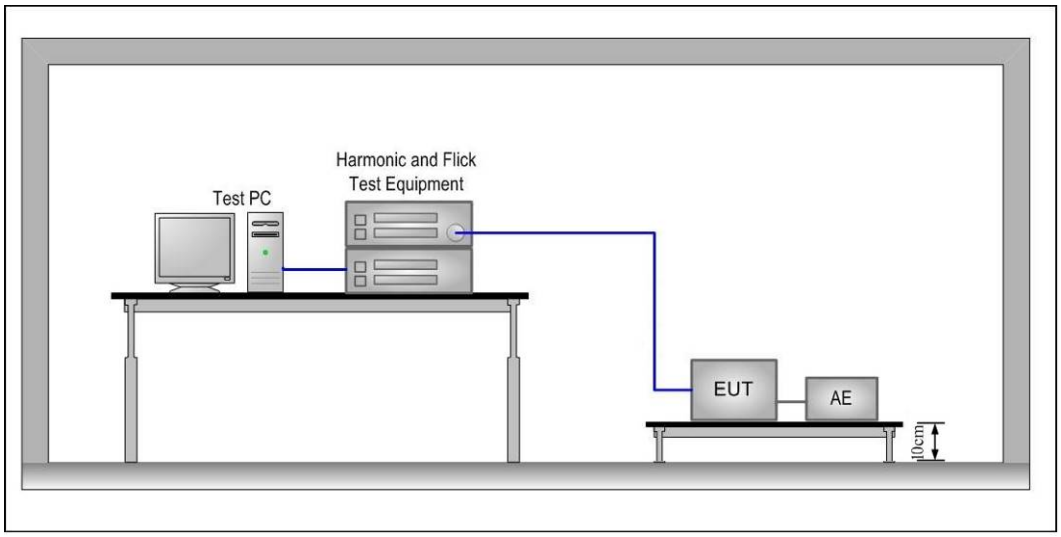
Operating Environment:

Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1020 mbar

Test mode a:Cooling mode: Keep the temperature controller setting at the lowest position, The ambient temperature for EUT shall be (30 ± 5) °C.

b:Heating mode: Keep the temperature controller setting at the highest position, The ambient temperature for EUT shall be (15 ± 5) °C.

6.5.2 Test Setup Diagram



6.5.3 Measurement Data

Mode:a

Maximum Flicker results

	EUT values	Limit	Result
Pst	0.096	1.00	PASS
Plt	0.073	0.65	PASS
dc [%]	0.075	3.30	PASS
dmax [%]	0.306	6.00	PASS
dt [s]	0.000	0.50	PASS

Mode: b

Maximum Flicker results

	EUT values	Limit	Result
Pst	0.098	1.00	PASS
Plt	0.075	0.65	PASS
dc [%]	0.078	3.30	PASS
dmax [%]	0.318	6.00	PASS
dt [s]	0.000	0.50	PASS

7 Immunity Test Results

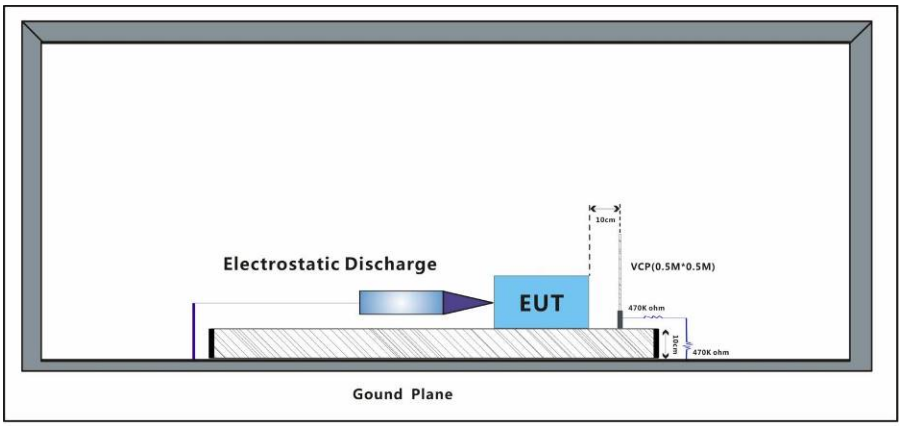
7.1 Performance Criteria Description in EN IEC 55014-2:2021

Criterion A	The apparatus shall continue to operate as intended during the test. No degradation of performance or loss of function is allowed below a performance level (or permissible loss of performance) specified by the manufacturer, when the apparatus is used as intended. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, then either of these may be derived from the product description and documentation, and from what the user may reasonably expect from the apparatus if used as intended.
Criterion B	The apparatus shall continue to operate as intended after the test. No degradation of performance or loss of function is allowed below a performance level (or permissible loss of performance) specified by the manufacturer, when the apparatus is used as intended. During the test, degradation of performance is allowed, however. No change of actual operating state or stored data is allowed. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, then either of these may be derived from the product description and documentation and from what the user may reasonably expect from the apparatus if used as intended.
Criterion C	Temporary loss of function is allowed, provided the function is self recoverable or can be restored by the operation of the controls, or by any operation specified in the instructions for use.

7.2 Electrostatic Discharge

Test Requirement: EN IEC 55014-2:2021
Test Method: EN 61000-4-2:2009
Performance Criterion: B
Discharge Impedance: 330Ω/150pF
Number of Discharge: Minimum 10 times at each test point
Discharge Mode: Single Discharge
Discharge Period: 1 second minimum

7.2.1 Test Setup Diagram



7.2.2 E.U.T. Operation

Operating Environment:

Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1020 mbar

Test mode: a:Cooling mode: Keep the temperature controller setting at the lowest position, The ambient temperature for EUT shall be (30 ± 5) °C.
b:Heating mode: Keep the temperature controller setting at the highest position, The ambient temperature for EUT shall be (15 ± 5) °C.

7.2.3 Test Results:

Observations: Test Point:
1. All insulated enclosure and seams.
2. All accessible metal parts of the enclosure.
3. All side

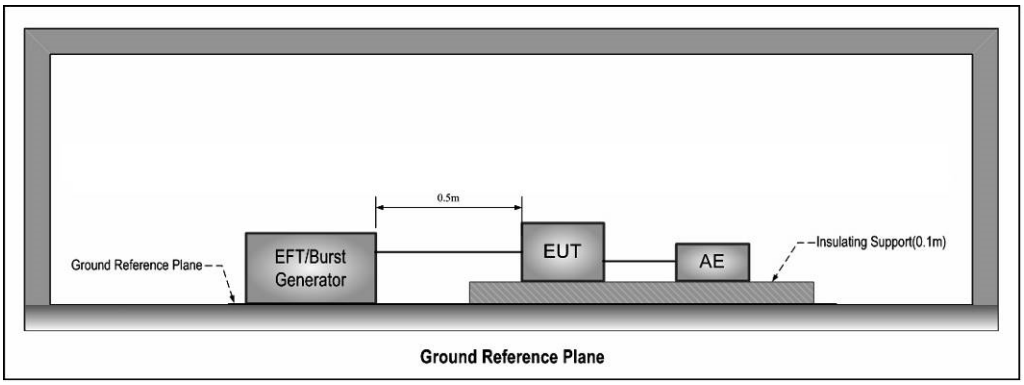
Discharge type	Level (kV)	Polarity	Test Point	Result / Observations
Air Discharge	8	+	1	A
Air Discharge	8	-	1	A
Contact Discharge	4	+	2	A
Contact Discharge	4	-	2	A
Vertical Coupling	4	+	3	A
Vertical Coupling	4	-	3	A

Results:
A: No degradation in the performance of the EUT was observed.

7.3 Electrical Fast Transients/Burst at Power Port

Test Requirement: EN IEC 55014-2:2021
Test Method: EN 61000-4-4:2012
Performance Criterion: B
Repetition Frequency: 5kHz
Burst Period: 300ms
Test Duration: 2 minute per level & polarity

7.3.1 Test Setup Diagram



7.3.2 E.U.T. Operation

Operating Environment:
Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1020 mbar
Test mode: a:Cooling mode: Keep the temperature controller setting at the lowest position, The ambient temperature for EUT shall be (30 ± 5) °C.
b:Heating mode: Keep the temperature controller setting at the highest position, The ambient temperature for EUT shall be (15 ± 5) °C.

7.3.3 Test Results:

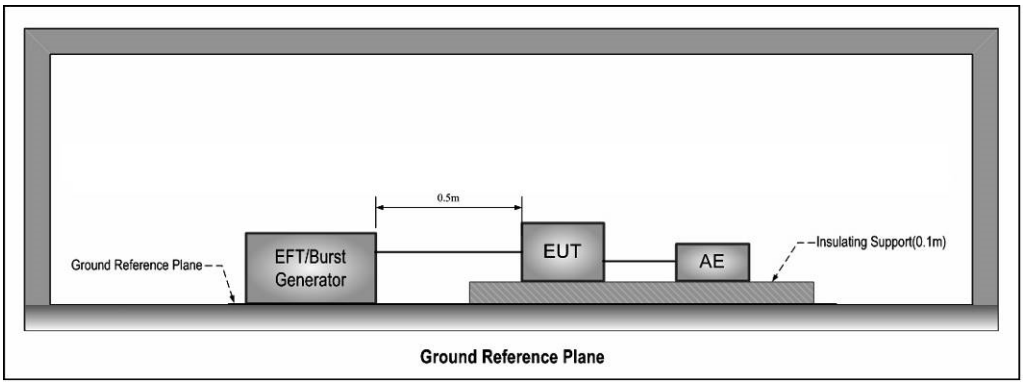
Test Line	Level (kV)	Polarity	CDN/Clamp	Result / Observations
AC power port	1	+	CDN	A
AC power port	1	-	CDN	A

Results:
A: No degradation in the performance of the EUT was observed.

7.4 Electrical Fast Transients/Burst at Signal Port

Test Requirement: EN IEC 55014-2:2021
Test Method: EN 61000-4-4:2012
Performance Criterion: B
Repetition Frequency: 5kHz
Burst Period: 300ms
Test Duration: 2 minute per level & polarity

7.4.1 Test Setup Diagram



7.4.2 E.U.T. Operation

Operating Environment:
Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1020 mbar
Test mode: a:Cooling mode: Keep the temperature controller setting at the lowest position, The ambient temperature for EUT shall be (30 ± 5) °C.
b:Heating mode: Keep the temperature controller setting at the highest position, The ambient temperature for EUT shall be (15 ± 5) °C.

7.4.3 Test Results:

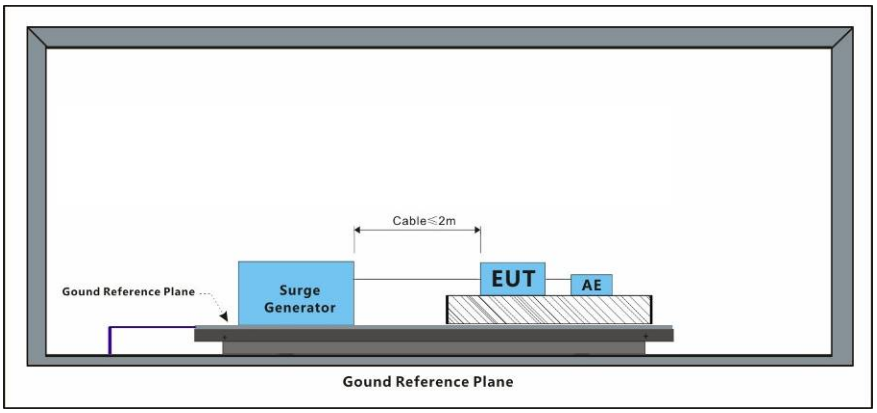
Port	Level (kV)	Polarity	CDN/Clamp	Result / Observations
Signal port	0.5	+	Clamp	A
Signal port	0.5	-	Clamp	A

Results:
A: No degradation in the performance of the EUT was observed.

7.5 Surge at Power Port

Test Requirement: EN IEC 55014-2:2021
Test Method: EN 61000-4-5:2014 +A1:2017
Performance Criterion: B
Interval: 60s between each surge
No. of surges: 5 positive at 90°, 5 negative at 270°.

7.5.1 Test Setup Diagram



7.5.2 E.U.T. Operation

Operating Environment:

Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1020 mbar

Test mode: a:Cooling mode: Keep the temperature controller setting at the lowest position, The ambient temperature for EUT shall be (30 ± 5) °C.

b:Heating mode: Keep the temperature controller setting at the highest position, The ambient temperature for EUT shall be (15 ± 5) °C.

7.5.3 Test Results:

Test Line	Level (kV)	Polarity	Phase (deg)	Result / Observations
L-N	1	+	90°	A
L-N	1	-	270°	A
L-PE	2	+	90°	A
L-PE	2	-	270°	A
N-PE	2	+	90°	A
N-PE	2	-	270°	A

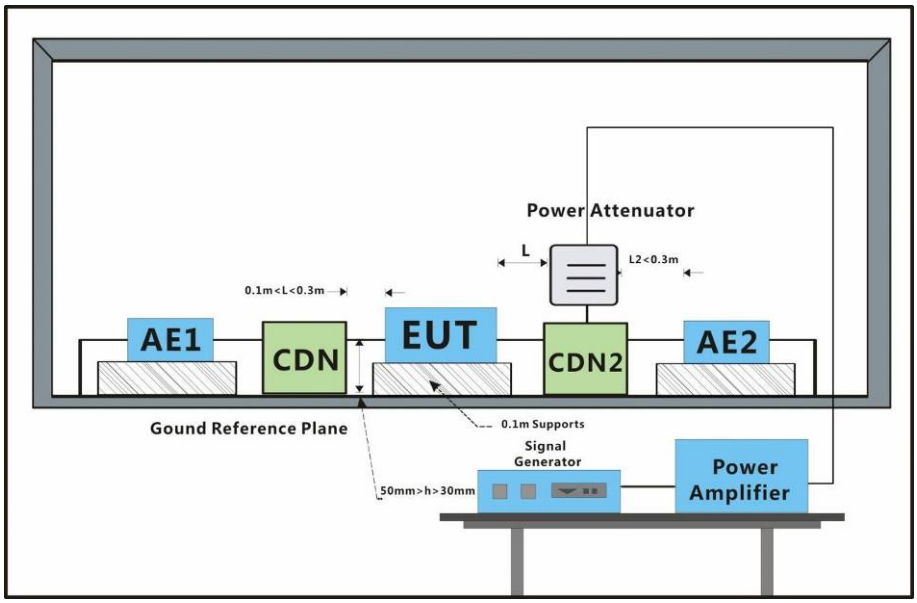
Results:

A: No degradation in the performance of the EUT was observed.

7.6 Conducted Immunity at Power Port (150kHz-230MHz)

Test Requirement: EN IEC 55014-2:2021
Test Method: EN IEC 61000-4-6:2023
Performance Criterion: A
Frequency Range: 0.15MHz to 230MHz
Modulation: 80%, 1kHz Amplitude Modulation
Step Size 1%

7.6.1 Test Setup Diagram



7.6.2 E.U.T. Operation

Operating Environment:

Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1020 mbar

Test mode: a:Cooling mode: Keep the temperature controller setting at the lowest position, The ambient temperature for EUT shall be (30 ± 5) °C.

b:Heating mode: Keep the temperature controller setting at the highest position, The ambient temperature for EUT shall be (15 ± 5) °C.

7.6.3 Test Results:

Cable port	Level (Vrms)	CDN/Clamp	Dwell time	Result / Observations
AC power port	3	CDN	3s	A

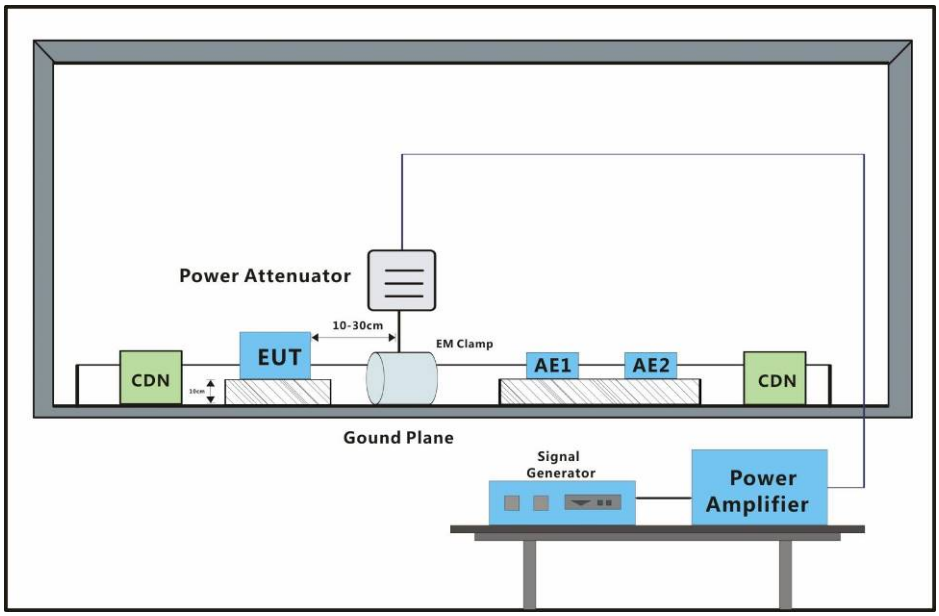
Results:

A: No degradation in the performance of the EUT was observed.

7.7 Conducted Immunity at Signal Port (150kHz-230MHz)

Test Requirement: EN IEC 55014-2:2021
Test Method: EN IEC 61000-4-6:2023
Performance Criterion: A
Frequency Range: 0.15MHz to 230MHz
Modulation: 80%, 1kHz Amplitude Modulation
Step Size 1%

7.7.1 Test Setup Diagram



7.7.2 E.U.T. Operation

Operating Environment:

Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1020 mbar

Test mode: a:Cooling mode: Keep the temperature controller setting at the lowest position, The ambient temperature for EUT shall be (30 ± 5) °C.

b:Heating mode: Keep the temperature controller setting at the highest position, The ambient temperature for EUT shall be (15 ± 5) °C.

7.7.3 Test Results:

Port	Level (Vrms)	CDN/Clamp	Dwell time	Result / Observations
Signal port	1	Clamp	3s	A

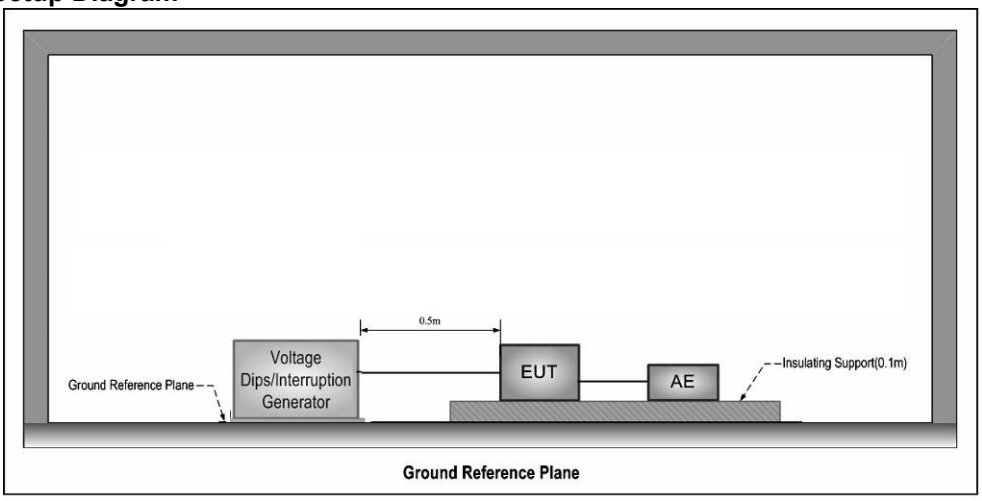
Results:

A: No degradation in the performance of the EUT was observed.

7.8 Voltage Dips and Interruptions

Test Requirement: EN IEC 55014-2:2021
Test Method: EN 61000-4-11:2004 +A1:2017
Performance Criterion: For 50Hz:
0% of UT (Rated Voltage) for 0.5 Cycle: C;
40% of UT for 10 Cycle: C;
70% of UT for 25 Cycle: C
For 60Hz:
0% of UT (Rated Voltage) for 0.5 Cycle: C;
40% of UT for 12 Cycle: C;
70% of UT for 30 Cycle: C
No. of Dips / Interruptions: 3 per Level
Time between dropout 10s

7.8.1 Test Setup Diagram



7.8.2 E.U.T. Operation

Operating Environment:
Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1020 mbar
Test mode: a:Cooling mode: Keep the temperature controller setting at the lowest position, The ambient temperature for EUT shall be (30 ± 5) °C.
b:Heating mode: Keep the temperature controller setting at the highest position, The ambient temperature for EUT shall be (15 ± 5) °C.

7.8.3 Test Results:

Level % UT	Phase (deg)	Duration	No. of Dips / Interruptions	Result / Observations
0	0°	0.5 Cycles	3	A
0	180°	0.5 Cycles	3	A
40	0°	10 Cycles	3	A
40	180°	10 Cycles	3	A
70	0°	25 Cycles	3	A
70	180°	25 Cycles	3	A

Results:
A: No degradation in the performance of the EUT was observed.

8 Photographs

8.1 Conducted Emissions at Mains Terminals (150kHz-30MHz) Test Setup

8.2 Discontinuous Disturbance (150kHz-30MHz) Test Setup

8.3 Disturbance Power Test Setup

8.4 Harmonic & Voltage Fluctuations and Flicker Test Setup

8.5 Electrostatic Discharge Test Setup

8.6 Electrical Fast Transients/Burst at Power Port Test Setup

8.7 Electrical Fast Transients/Burst at Signal Port Test Setup

8.8 Surge at Power Port Test Setup

8.9 Conducted Immunity at Power Port (150kHz-230MHz) Test Setup

8.10 Conducted Immunity at Signal Port (150kHz-230MHz) Test Setup

8.11 Voltage Dips and Interruptions Test Setup

8.12 EUT Constructional Details (EUT Photos)

- End of the Report -